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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,526	11/16/2005	Laurent Demia	979-140	7108

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EXAMINER	
ALLI, IYABO	
ART UNIT	**PAPER NUMBER**
2112	

DATE MAILED: 12/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/536,526	DEMIA ET AL.	
	Examiner	Art Unit	
	IYABO S. ALLI	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/16/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05/25/05* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/25/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims **1, 4-6, 12-14,** are rejected under 35 U.S.C. 102(**b**) as being anticipated by **Culver** (US 2002/0003206).

Culver discloses a remote and integrated optical sensing of state, motion, and position comprising:

In regards to claim 1, a consumption indicator formed of a rotating disc **12** provided with a so-called active sector and optical elements of emitting type and receiving type opposite said disc **12**, whose received optical signal is processed to infer at least the number of rotations of said disc **12**;

at least two said optical elements of one type and at least one said optical element of the other type, wherein said sector is a reflecting sector with a center angle called a first angle of between about 45 and 225 degrees (Column 45, lines 5-7);

two optical elements of one type are emitting elements **38 & 40** of a light beam, the lines connecting each trace of these beams on disc **12** forming a center angle in the center of the disc **12** called a nonzero second angle (Column 42, lines 17-20 and Figs. 1a & 2b).

In regards to claims 4-6, two emitting optical elements and one receiving optical element (Column 45, lines 6 & 17-19);

three optical members are substantially aligned and the receiving optical element is between the emitting elements (Column 57, lines 1-4 and Fig. 6); and

two emitting optical elements and two receiving optical elements **38 & 40** associated in pairs, each receiving element receiving the optical beam of the emitting element in the same pair (Column 45, lines 5-7 & 17-19).

In regards to claims 12-14, an additional optical emitter **14** for presence detection, the trace on disc **12** of this presence detection emitter is centered on the axis of symmetry of the disc **12** (Column 46, lines 1-9 and Figs. 1a-b & 3a); and

the presence detection optical emitter **14** is associated in a pair with a receiving optical emitter, the trace of this emitter on the disc **12** being substantially equidistant from those of said two preceding emitting optical elements (Columns 43 & 45, lines 1-7 and Figs. 1a-2b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims **3, 7 & 19** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Culver** (US 2002/0003206) in view of **R.A. Findlay** (3,031,880).

Culver's invention discloses all of the claimed limitations above except a reflecting sector has a center angle of 180 degrees, two optical emitters operate sequentially, and a support that has a sealing lip surrounding the pair of optical elements and intended to bear upon said fluid meter.

However, **R.A. Findlay** teaches, **in regards to claim 3**, a reflecting sector has a center angle of 180 degrees (Page 4, lines 1-3).

In regards to claim 7, two optical emitters that operate sequentially (Page 4, lines 3-4)

And in regards to claim 19, the support **66** has a sealing lip surrounding the pair of optical elements and intended to bear upon said fluid meter (Page 3, Column 4, lines 11-15 and Fig. 2).

Given the teachings of **R.A. Findlay**, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the of **Culver** with a reflecting sector has a center angle of 180 degrees, two optical emitters operate sequentially, and a support that has a sealing lip surrounding the pair of optical elements and intended to bear upon said fluid meter.

Doing so would allow the detector to detect the emitted light one after the other, instead of at the same time making the detection method more accurate and protection for the emitting source in a device that comes in contact with a liquid.

5. Claims **8-11** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Culver** (US 2002/0003206) in view of **R.A. Findlay** (3,031,880) as applied to the claims above, and further in view of **Shinozaki et al.** (7,025,005).

Culver 's invention, as further modified by **R.A. Findlay**, discloses all of the claimed limitations above except a non-reflecting sector of said disc is inclined with respect to the axis of the disc, the positioning of said optical elements is such that the angle of incidence of the optical beam emitted and received by the optical elements is less than 60 degrees, a collimator device for the optical beam, and a collimator device comprises slits limiting stray interference between light beams.

However, **Shinozaki** teaches, **in regards to claims 8**, a non-reflecting sector of said disc is inclined with respect to the axis of the disc (Column 100, lines 16-20 and Fig. 20).

In regards to claim 9, the positioning of said optical elements is such that the angle of incidence of the optical beam emitted and received by the optical elements is less than 60 degrees (Column 104, lines 1-3).

In regards to claim 10, a collimator device for the optical beam (Column 59, lines 2-5 and Fig.12).

And regards to claim 11, a collimator device comprises slits limiting stray interference between light beams (Column 34, lines 6-8).

Given the teachings of **Shinozaki**, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the remote and integrated optical sensing of state, motion, and position of **Culver** with a non-reflecting sector of said disc is inclined with respect to the axis of the disc, the positioning of said optical elements is such that the angle of incidence of the optical beam emitted and received by the optical elements is less than 60 degrees, a collimator device for the optical beam, and a collimator device comprises slits limiting stray interference between light beams.

Doing so would allow the device to produce changes in the amount of light transmitted through the slits.

6. Claims **15-18 & 20** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Culver** (US 2002/0003206) in view of **Shinozaki et al.** (7,025,005)as applied to the claims above, and furthermore in view of **Ishikawa et al.** (5,054,913).

Culver's invention as furthermore modified **Shinozaki** by discloses all of the claimed limitations above except the first angle is equal to twice said second angle, a fluid meter having a rotating disc that is part of an optical detector device, detection module intended to cooperate with a fluid meter and comprising said optical elements that are part of a device, an optical beam collimator device, the emitting optical element and the receiving optical element of at least one of said pairs are housed in a common support, support has a sealing lip surrounding the pair of optical elements and intended to bear upon said fluid meter, and a flange separating the two optical elements and intended to bear upon said fluid meter.

However, **Ishikawa** teaches, **in regards to claim 2,** the first angle is equal to twice said second angle (Column 7, lines 10-12).

In regards to claim 15, a fluid meter having a rotating disc **10** that is part of an optical detector **31** device (Column 7, lines 11-13 and Fig. 3 & 5).

In regards to claim 16, detection module **12** intended to cooperate with a fluid meter and comprising said optical elements that are part of a device (Column 14, lines 9-13).

In regards to claim 17, an optical beam collimator device **32** (Column 16, lines 3-6 and Fig 10).

In regards to claim 18, the emitting optical element and the receiving optical element **36** of at least one of said pairs are housed in a common support **31** (Column 16, lines 7-12 and Fig. 10).

And in regards to claim 20, support **31** comprises a flange separating the two optical elements and intended to bear upon said fluid meter (Fig. 10).

Given the teachings of **Ishikawa**, it would have been obvious to one of ordinary skill in the art at the time of the invention to furthermore modify the remote and integrated optical sensing of state, motion, and position of **Culver** with the first angle is equal to twice said second angle, a fluid meter having a rotating disc that is part of an optical detector device, detection module intended to cooperate with a fluid meter and comprising said optical elements that are part of a device, an optical beam collimator device, the emitting optical element and the receiving optical element of at least one of

said pairs are housed in a common support, support has a sealing lip surrounding the pair of optical elements and intended to bear upon said fluid meter, and a flange separating the two optical elements and intended to bear upon said fluid meter.

Doing so would allow for the optical elements to be used in a fluid meter device.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **5,393,973**; **6,444,973** & **5,249,157**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYABO S. ALLI whose telephone number is 571-270-1331. The examiner can normally be reached on M-Th 7:30am- 5:00pm; 1st F-OFF & 2nd F- 7:30-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571-272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IYABO S. ALLI
Examiner
Art Unit 2112
December 6, 2006

TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER